

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) 08 JUN 2005	
FOR FURTHER ACTION See paragraph 2 below	
Applicant's or agent's file reference 2815-67385-0	
International application No. PCT/US04/40826	International filing date (day/month/year) 06 December 2004 (06.12.2004)
Priority date (day/month/year) 05 December 2003 (05.12.2003)	
International Patent Classification (IPC) or both national classification and IPC IPC(7): B22F 9/18 and US Cl.: 75/351, 362, 369	
Applicant IDAHO RESEARCH FOUNDATION INC.	
DOCKETED FOR: 10/5/05	

1. This opinion contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the opinion |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application |

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BOOK OK
SCAN _____
CC: _____

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Roy V King <i>Roy V King</i> Telephone No. 571-272-1700
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Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO
Inventive step (IS)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO
Industrial applicability (IA)	Claims <u>Please See Continuation Sheet</u>	YES
	Claims <u>Please See Continuation Sheet</u>	NO

2. Citations and explanations:

Claims 1-7, 10-13, 21-32, 36-42, 45-48, 61, 66-68, 77, 78, and 82-84 lack novelty under PCT Article 33(2) as being anticipated by Capan et al. (US 2003/0139594 A1). Capan et al. paragraphs [0047] - [0049] discloses a process substantially equivalent to that of present claim 1. With respect to claims 2-5, Capan et al. paragraph [0033] discloses polymers as recited in the present claims. With respect to claims 6 and 7, Capan et al. paragraph [0022] discloses metals and mixtures thereof as recited in the present claims, which would indicate that the precursors recited in claims 10-13 would be appropriate for use in the Capan et al. process. With respect to claims 21-26, the Capan et al. process includes adding e.g. formic acid and washing.

With respect to claim 27, note that the claim merely requires proving the supported nanoparticles and a reagent "under further providing conditions allowing chemical reactions to occur"; because chemical reactions occur in the processes of Capan et al., the limitations of the present claim are inherently met. With respect to claims 28-32, note Capan et al. paragraph [0033].

With respect to claims 36, 37, 47 and 48, Capan et al. paragraphs [0019] and [0020] indicates that the Capan et al. process involves oxidation and/or reduction. With respect to claims 38 and 39, note Capan et al. paragraph [0022]. With respect to claims 40-42, 66, 67, 77 and 78, note Capan et al. paragraph [0033]. With respect to claims 45 and 68, the Capan et al. process may include hydrogenation; see Capan et al. paragraph [0088] and [0089]. With respect to claim 61, it is clear that varying the relative amounts of the starting materials in Capan et al. would result in a consequent variation in the relative amounts of reduction products.

Finally, with respect to claims 82 and 83, note Capan et al. paragraphs [0088] and [0089], and with respect to claim 84, note Capan et al. paragraph [0022].

In view of the above, the claimed invention cannot be said to be novel in view of the disclosure of Capan et al.

Claims 8, 9, 14-20, 33-35, 43, 44, 46, 49-60, 62-65, 69-76, and 79-81 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest using any of the particular materials (specific polymers, supercritical fluid, etc.) as recited in the present claims.

Claims 1-84 meet the criteria set out in PCT Article 33(4), and thus possess industrial applicability because the subject matter claimed can be made or used in industry.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

Claim 32 is objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because claim 32 is indefinite for the following reason(s): The dependency of this claim appears to be mistaken. Claim 27 (on which claim 32 depends) lacks proper antecedent basis for the term "the plastic support material".

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

V.1. Reasoned Statements:

The opinion as to Novelty was positive (Yes) with respect to claims 8, 9, 14-20, 33-35, 43, 44, 46, 49-60, 62-65, 69-76, 79-81

The opinion as to Novelty was negative (No) with respect to claims 1-7, 10-13, 21-32, 36-42, 45, 47, 48, 61, 66-68, 77, 78, 82-84

The opinion as to Inventive Step was positive (Yes) with respect to claims 8, 9, 14-20, 33-35, 43, 44, 46, 49-60, 62-65, 69-76, 79-81

The opinion as to Inventive Step was negative (NO) with respect to claims 1-7, 10-13, 21-32, 36-42, 45, 47, 48, 61, 66-68, 77, 78, 82-84

The opinion as to Industrial Applicability was positive (YES) with respect to claims 1-84

The opinion as to Industrial Applicability was negative (NO) with respect to claims NONE